Atty. Docket No.: BP9703US-DV2



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No:

10/610,337

Confirmation No. Unknown

Date Filed:

June 30, 2003

Application Title:

Methods For The Determination Of PCR Amplified Nucleic

Acids Using Linear Beacons

Applicants:

Gildea et al.

Group Art Unit:

Not Assigned

Examiner:

Not Assigned

Certified Mail No.:

7099 3400 0007 5728 4548

Certificate of Mailing Pursuant to: 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail and addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 30th day of September, 2003.

Brian D. Gildea Reg. No. 39,995

Information Disclosure Statement

Commissioner For Patents Dear Sir or Madam:

In accordance with 37 C.F.R. § 1.97, Applicant(s) hereby make of record the following information and publications. Copies of PTO Form 1449 and each publication listed thereon [INCLUDE REFERENCE CODE, E.G., (U.S. PATENTS: AA through AZ); (BA - BZ FOREIGN PATENTS) &/OR (CA - CZ JOURNAL ARTICLES ETC.)] accompany this statement, either in the entirety or in the relevant parts.

<u>Fee</u>

Since the first Office Action on the merits has not been issued by The Office and this document is being mailed within 3 months of the filing date, it is believed that no fee is due for consideration of the documents contained herein. If however The Office determines that a fee is due for consideration of this Information Disclosure Statement, The Office is hereby authorized to deduct any other fee due for the entry of this paper into the file from Deposit Account 02-3240.

Respectfully submitted,

Date: <u>Sept 30, 2003</u>

Brian D. Gildea Reg. No. 39,995

Applied Biosystems 15 DeAngelo Drive Bedford, MA 01730 phone 781-280-2824 fax 781-280-2940

Customer Number 023544

Q23544 [Insert Bar Code Here]



FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.: BP9703US-DV2 APPLICANT: Brian D. Gildea, et al

SERIAL NO.: 10/610,337 FILING DATE: June 30, 2003

GROUP:

			US PA	TENT DOCUMENTS			
EXAM		DOCUMEN				SUB	FILING DATE IF
. INIT.		T NUMBER	DATE	NAME	CLASS	CLASS	APPROPRIATE
7KH/	AA	4,174,384	Nov. 13, 1979	Ullman	424		Oct. 12, 1976
	AB	4,261,968	Apr. 14, 1981	Ullman	424		May 10, 1979
***************************************	AC	4,542,104	Sep. 17, 1985	Stryer	436		Apr. 6, 1983
0000	AD	4,666,862	May 19, 1987	Chan	436		Aug. 14, 1984
00000	AE	4,725,536	Feb. 16, 1988	Fritsch	435		Sep. 19, 1985
0000	AF	4,725,537	Feb. 16, 1988	Fritsch	435		Sep. 19, 1985
. 8	AG	4,766,062	Aug. 23, 1988	Diamond	435		May 7, 1984
	AH	4,822,733	Apr. 18, 1989	Morrison	435		May 28, 1985
000	AI	4,868,103	Sep. 19, 1989	Stavrianopoulos	435		Feb. 19, 1986
00000	AJ	4,996,143	Feb. 26, 1991	Heller	435		Apr. 13, 1990
0000	AK	5,118,801	Jun. 2, 1992	Lizardi	536		Sep. 30, 1988
	AL	5,210,015	May 11, 1993	Gelfand	435		Aug. 6, 1990
	AM	5,237,515	Aug. 17, 1993	Herron	364		Apr. 10, 1991
0000	AN	5,288,611	Feb. 22, 1994	Kohne	435		Mar. 19, 1992
	AO	5,312,728	May 17, 1994	Lizardi	435		May 4, 1992
	AP	5,439,793	Aug. 8, 1995	Rose	435		Jul. 19, 1990
00000	AQ	5,439,797	Aug. 8, 1995	Tsien	435		Aug. 30, 1993
	AR	5,491,063	Feb. 13, 1996	Fisher	435		Sep. 1, 1994
	AS	5,514,546	May 7, 1996	Kool	435		Sep. 1, 1993
	АТ	5,527,675	Jun. 18, 1996	Coull	435		Aug. 20, 1993
200000	AU	5,538,848	Jul. 23, 1996	Livak	435		Nov. 16, 1994
	AV	5,539,082	Jul. 23, 1996	Nielsen	530		Apr. 26, 1993
	AW	5,573,906	Nov. 12, 1996	Bannwarth	435		Mar. 22, 1993
90000	AX	5,601,984	Feb. 11, 1997	Kohne	435		Jun. 2, 1995
00000	AY	5,607,834	Mar. 4, 1997	Bagwell	435		Apr. 10, 1995
	AZ	5,612,183	Mar. 18, 1997	Kohne	435		Jun. 2, 1995
	AAA	5,623,049	Apr. 22, 1997	Lobberding	530		Sep. 6, 1994
0000	AAB	5,631,169	May 20, 1997	Lakowicz	436		Jan. 19, 1994
0000	AAC	5,641,631	Jun. 24, 1997	Kohne	435		Jun. 2, 1995
	AAD	5,643,762	Jul. 1, 1997	Ohshima	435		Aug. 2, 1994
8	AAE	5,675,517	Oct. 7, 1997	Stokdijk	364		Apr. 25, 1995
8	AAF	5,691,145	Nov. 25, 1997	Pitner	435		Aug. 27, 1996
8	AAG	5,691,146	Nov. 25, 1997	Mayrand	435		Sep. 11, 1996
	AAH	5,705,346	Jan. 6, 1998	Okamoto	435		Jun. 25, 1996
0000	AAI	5,707,804	Jan. 13, 1998	Mathies	435		Mar. 27, 1995
2000	AAJ	5,714,331	Feb. 3, 1998	Buchardt	435		Jul. 24, 1996
8000	AAK	5,723,294	Mar. 3, 1998	Glass	435		Mar. 5, 1996
2000	AAL	5,736,336	Apr. 7, 1998	Buchardt	435		May 1, 1997
***************************************	AAM	5,763,167	Jun. 9, 1998	Conrad	435		Mar. 21, 1994
	AAN	5,770,365	Jun. 23, 1998	Lane	435		Aug. 25, 1995
W	AAO	5,773,571	Jun. 30, 1998	Nielsen	530		Feb. 1, 1996
/KH/	AAP	5,780,233	Jul. 14, 1998	Guo	435		Jun. 6, 1996

EXAMINER:	/Kenneth Horlick/	DATE CONSIDERED:	09/17/2007

/KH/	BK	WO98/24933 June 11, 1998	WIPO 2 2003 4	
***************************************	BL	WO98/26093 June 18, 1998	WIPO WIPO	
	ВМ	WO98/29568 July 9, 1998	WIPO	
	BN	WO98/30883 July 16, 1998	WIPO	
000000	ВО	WO98/37232 Aug. 27, 1998	WIPO	
	BP	WO97/45539 Dec. 4, 1997	WIPO	
	BQ	WO98/10096 Mar. 12, 1998	WIPO	
000000000000000000000000000000000000000	BR	WO93/10267 May 27, 1993	EUROPEAN PATENT SPECIFICATION	· · · · · · · · · · · · · · · · · · ·
99999999	BS	WO93/25706 Dec 23, 1993	EUROPEAN PATENT SPECIFICATION	
000000000	BT	WO94/02634 Feb 3, 1994	EUROPEAN PATENT SPECIFICATION	
V	BU	WO94/28171 Dec 8, 1994	EUROPEAN PATENT SPECIFICATION	
/KH/	BV	WO97/07235 Feb 27, 1997	EUROPEAN PATENT SPECIFICATION	

	.1	
		OTHER PUBLICATIONS
/KH/	CA	Armitage, B. et al, Hairpin-forming peptide nucleic acid oligomers. Biochem. 37, 9417-9425 (1998)
000000000000000000000000000000000000000	СВ	Bagwell, C.B. et al, A new homogeneous assay system for specific nucleic acid sequences: poly-dA and poly-A detection. Nucleic Acids Res. 22, 2424-2425 (1994)
000000000000000000000000000000000000000	CC	Blok, H.J. et al, Amplifiable hybridization probes containing a molecular switch. Molecular and Cellular Probes 11, 187-194 (1997)
000000000	CD	Cardullo, R.A. et al, Detection of nucleic acid hybridization by nonradiative fluorescence resonance energy transfer. Proc. Natl. Acad. Sci. USA 85, 8790-8794 (1988)
999999999	CE	Carmel, A. et al, Intramolecularly-quenched fluorescent peptides as fluorogenic substrates of leucine aminopeptidase and inhibitors of clostridial aminopeptidase. Eur. J. Biochem. 73, 617-625 (1977)
000000000000000000000000000000000000000	CF	Chen, X. et al, A homogeneous, ligase-mediated DNA diagnostic test. Genome Res. 8, 549-556 (1998)
***************************************	CG	Clegg, R.M., Fluorescence Resonance Energy Transfer and Nucleic Acids. Methods in Enzymology 211, 353-388 (1992)
000000000	СН	Corey, D.R. 48000-fold Acceleration of Hybridization by Chemically Modified Oligonucleotides. J. Am. Chem. Soc. 117, 9373-9374 (1995)
***************************************	CI	Diederichsen, U. et al, Self-Pairing PNA with alternating alanyl/homoalanyl backbone. Tett. Lett. 37, 475-478 (1996)
XXXXXXXXXXX	CJ	Dueholm, K.L. et al, Chemistry, properties and applications of PNA (Peptide Nucleic Acid). New J. Chem. 21, 19-31 (1977)
	СК	Egholm, M. et al, PNA hybidizes to complementary oligonucleotides obeying the Watson-Crick hydrogen-bonding rules. Nature 365, 566-568 (1993)
000000000000000000000000000000000000000	CL	Ferguson, J.A. et al, A fiber-optic DNA biosensor microarray for the analysis of gene expression. Nature Biotech. 14, 1681-1684 (1996)
0	СМ	Fujii, M. et al, Nucleic acid analog peptide (NAAP)2, syntheses and properties of novel DNA analog peptides containing nucleobase linked β-aminoalanine. Bioorg. & Med. Chem. Lett. 7, 637-640 (March 1997)
999999	CN	Guo, Z. et al, Direct fluorescence analysis of genetic polymorphisms by hybridization with oligonucleotide arrays on glass supports. Nucleic Acids Res. 22, 5456-5465 (1994)
V	СО	Guo, Z. et al, Enhanced discrimination of single nucleotide polymorphisms by artificial mismatch hybridization. Nature Bi tech. 15, 331-335 (1997)
/KH/	СР	Haasnoot, C.A.G. et al, Structure, kinetics and thermodynamics of DNA hairpin fragments in solution. J. Bi m lecular Structure and Dynamics 1, 115-129 (1983)

EVANGINGED.	/Kenneth Horlick/	DAME CONORDED		
EXAMINER:	/itelineth Homely	DATE CONSIDERED:	09/17/2007	

ا ا	/KI	H/	AAQ	5,786,461	Jul. 28, 1998	Buchardt	536	.	May 1, 1997
Ì	3		AAR	5,787,032	Jul. 28, 1998	Heller	365		Jun. 10, 1994
ļ			AAS	5,800,996	Sep. 1, 1998	Lee	435		Oct. 4, 1996
ļ			AAT	5,804,386	Sep. 8, 1998	Ju	435		Jan. 15, 1997
Ŋ İ			AAU	5,831,014	Nov. 3, 1998	Cook	530		Feb. 22, 1995
OTF	F	\forall	AAV	5,827,660	Oct. 27, 1998	Singer	435		Aug. 9, 1996
\Q''		1	AAW	5,846,729	Dec. 8, 1998	Wu	435		July 1, 1997
/	-		AAX	5,866,336	Feb. 1, 1999	Nazarenko	435		Jan. 3, 1997
0 730	2 20	3	AAY	5,879,885	Mar. 9, 1999	Becker	435		Jun. 7, 1995
יוטע קַ			AAZ	5,925,517	Jul. 20, 1999	Tyagi	435		May 12, 1995
K.		- 4	ABA	5,985,563	Nov. 16, 1999	Hyldig-Nielsen et al.	435	6	Jun. 5, 1997
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		C'2/	ABB	5,348,853 .	Sep. 20, 1994	Wang, et al.	435	6	Dec. 16, 1991
DE TO	النست	-	ABC	6,177,249	Jan. 23, 2001	Kwok, et al.	435	6	Apr. 20, 1999
	8		ABD	5,487,972	Jan 30, 1996	Gelfand et al.	435	6	Jan 5, 1993
	8	\neg	ABE	5,629,178	May 13, 1997	Demers	435	91.2	Oct 28, 1994
Ŋ İ		\Box	ABF	5,635,347	Jun 3, 1997	Link et al.	435	6	Jan 28, 1994
,			ABG	5,656,461	Aug 12, 1997	Demers	435	91.1	Jun 6, 1995
	-		ABH	5,723,591	Mar 3, 1998	Livak et al.	536	22.1	Nov 15, 95
			ABI	5,804,375	Sept 8, 1998	Gelfand et al.	435	6	Sept 8, 1998
,	8		ABJ	5,849,544	Dec 15, 1998	Harris et al.	435	91.2	Feb 3, 1994
	000		ABK	5,876,930	Mar 2, 1999	Livak et al.	435	6	Nov 15, 1995
	- 8		ABL	5,888,733	Mar 30, 1999	Hyldig-Nielsen et al.	435	6	Oct 2, 1996
1			ABM	5,891,625	April 6, 1999	Buchardt et al.	435	6	Dec 23, 1993
			ABN	5,912,145	Jun 15, 1999	Stanley	435	91.1	Dec 8, 1994
			ABO	5,972,610	Oct 26, 1999	Buchardt et al.	435	6	Oct 8, 1997
l		二	ABP	6,020,124	Feb 1, 2000	Sorenson	435	6	Jun 7, 1995
1	-		ABQ	6,030,787	Feb 29,2000	Livak et al.	435	6	Dec 7, 1998
		\Box	ABR	6,103,476	Aug 15, 2000	Tyagi et al.	435	6	Mar 15, 1999
		\Box	ABS	6,110,676	Aug 29, 2000	Coull et al.	435	6	Nov 3, 1997
	1		ABT	6,214,979	April 10, 2001	Gelfand et al.	536	22.1	Sept 19, 1997
			ABU	6,355,421	Mar 12, 2002	Coull et al.	435	6	Oct 27, 1998
	/KĤ	/	ABV	6,361,942	Mar 26, 2002	Coull et al.	435	6	Mar 24, 1999
		\Box							
					FOREIC DOCUM	GN PATENT MENTS			
1	EXA		1	DOCUMENT				SUB	TRANSLATION
	. INI	-		NUMBER	DATE	COUNTRY	CLASS	CLASS	YES NO
	/KH/	′	ВА	EP0853129A2	Jul. 15, 1998 🥠	EPO			
	3000	\neg	ВВ	WO95/13399	May 18, 1995 _J	WIPO			
	000000000			WO97/14026	Apr. 17, 1997	WIPO			
Ì				WO97/18325	May 22, 1997 ノ	WIPO			
			BE	WO97/39008	Oct. 23, 1997	WIPO			
		1	BF	WO97/46711\	Dec. 11, 1997	WIPO			
	_		BG	WO97/46714	Dec. 11, 1997	WIPO			
	- X		ВН	WO98/10096	March 12, 1998	WIPO	_		
	V	*	BI	WO98/14612	April 9, 1998	WIPO			
	/KF	1/	BJ	WO98/18965	May 7, 1998	WIPO			
•									

EXAMINER:	/Kenneth Horlick/	DATE CONSIDERED:	09/17/2007

	/KH/		CQ	Holland, P.M. et al, Detection of specific polymerase chain reaction product by utilizing the 5'→3' exonuclease activity of <i>Thermus aquaticus</i> DNA polymerase. Proc. Natl. Acad. Sci. USA 88, 7276-7280 (1991)
		000000000	CR	Hung, SC. et al, Comparison of fluorescence energy transfer primers with different donor-acceptor dye combinations. Analy. Bi chem. 255, 32-38 (1998)
		000000000000000000000000000000000000000	CS	Hyldig-Nielsen, J.J. et al, Advances in the use of PNA probes for diagnostic testing. IBC's 3rd Annual Internati nal Symp sium n Diagnosti Gene Detecti n and Quantification Techn 1 gies f r Infectious Agents and Human Genetic Diseases. Feb. 25-27, 1998, Lake Tahoe, NV
		pocooooo	CT	Hyrup, B. et al, Peptide Nucleic Acids (PNA): Synthesis, Properties and Potential Applications. Bioorg. & Med. Chem. 4, 5-23 (1996)
101	P &	140	CU	Iyer, M. et al, Accelerated Hybridization of Oligonucleotides to Duplex DNA. The J. of Biol. Chem. 270, 14712-14717 (1995)
OCT	0 2	2003	€V υ.	Jordan, S. et al, New hetero-oligomeric peptide nucleic acids with improved binding properties to complementary DNA. Bioorg. & Med. Chem. Lett. 7, 687-690 (1997)
PE			ĆW	Jordan, S. et al, Synthesis of new building blocks for peptide nucleic acids containing monomers with variations in the backbone. Bioorg. & Med. Chem. Lett. 7, 681-686 (1997)
OCI OCI	210 2	i i i i i i	CX	Ju, J. et al, Fluorescence energy transfer dye-labeled primers for DNA sequencing and analysis. Proc. Natl. Acad. Sci. USA <i>92</i> , 4347-4351 (1995)
			CY	Kostrikis, L.G. et al, Spectral genotyping of human alleles. Science 279, 1228-1229 (1998)
		00000	CZ	Krotz, A.H. et al, Synthesis of "Retro-inverso" Peptide Nucleic Acids: 2. Oligomerization and stability. Tett. Lett. 36, 6941-6944 (1995)
		0000000000	DA	Lagriffoul, PH. et al, The synthesis, co-oligomerization and hybridization of a thymine-thymine heterodimer containing PNA. Bioorg. & Med. Chem. Lett. 4, 1081-1082 (1994)
		000000000	DB	Larin, Z. et al, Fluorescence in situ hybridisation of multiple probes on a single microscope slide. Nucleic Acids Res. 22, 3689-3692 (1994)
		00000000	DC	Lee, L.G. et al, Allelic discrimination by nick-translation PCR with fluorogenic probes. Nucleic Acids Res. 21, 3761-3766 (1993)
		00000000	DD	Leone, G. et al, Molecular beacon probes combined with amplification by NASBA enable homogeneous, real-time detection of RNA. Nucl. Acids Res. 26, 2150-2155 (1998)
		000000000000000000000000000000000000000	DE	Lester, A. et al, PNA array technology. Presented at Biochip Technologies Conference in Annapolis (Oct 1997)
			DF	Lewis, R. Oncor and Chiron Offer Improvements & Alternatives in Gene Amplification. Gen. Eng. News . 17, 3 & 36 (June 1, 1997)
			DG	Livak, K.J. et al, Oligonucleotides with Fluorescent Dyes at Opposite Ends Provide a Quenched Probe System useful for Detecting PCR Product and Nucleic Acid Hybridization. PCR Methods and Applic. 4, 357-362 (1995)
		200000000000000000000000000000000000000	DH	Lowe, G. et al, Amino acids bearing nucleobases for the synthesis of novel peptide nucleic acids. J. Chem. Soc., Perkin Trans. 1, 4, 539-546 (1997)
		0000000000	DI	Lowe, G. et al, Dipeptides bearing nucleobases for the synthesis of novel peptide nucleic acids. J. Chem. Soc., Perkin Trans. 1, 4, 547-554 (1997)
		0000000000	DJ	Lowe, G. et al, Solid-phase synthesis of novel peptide nucleic acids. J. Chem. Soc., Perkin Trans. 1, 4, 555-560 (1997)
		000000000	DK	Lutz, M.J. et al, Recognition of Uncharged Polyamide-Linked Nucleic Acid Analogs by DNA Polymerases and Reverse Transcriptases. J. Am. Chem. Soc. 119, 3177-3178 (1997)
		000000000	DL	Lyamichev, V. et al, Structure-Specific Endonucleolytic Cleavage of Nucleic Acids by Eubacterial DNA Polymerases. Science 260, 778-783 (1993)
		000000000	DM	Matray, T.J. et al, Selective and stable DNA base pairing without hydrogen bonds. J. Am. Chem. Soc. 120, 6191-6192 (1998)
		000000000000000000000000000000000000000	DN	Meldal, M. et al, Anthranilamide and Nitrotyrosine as a Donor-Acceptor Pair in Internally Quenched Fluorescent Substrates for Endopeptidases: Multicolumn Peptide Synthesis of Enzyme Substrates for Subtilisin Carlsberg and Pepsin. Anal. Biochem. 195, 141-147 (1991)
			DO	Mergny, JL. et al, Fluorescence Energy Transfer between Two Triple Helix-Forming Oligonucleotides Bound to Duplex DNA. Biochem. 33, 15321-15328 (1994)
	1		DP	Nazarenko, I.A. et al, A closed tube format for amplification and detection of DNA based on energy transfer. Nucleic Acids Res. 25, 2516-2521 (1997)
	/}	** <h <="" td=""><td>DQ</td><td>Nazarenko, I.A., A Closed-Tube Format for Amplification and Detection of Nucleic Acids Based on Energy Transfer. Fifth Annual Advances in Nucleic Acid Amplification and Detecti n, San</td></h>	DQ	Nazarenko, I.A., A Closed-Tube Format for Amplification and Detection of Nucleic Acids Based on Energy Transfer. Fifth Annual Advances in Nucleic Acid Amplification and Detecti n, San

•

٠.

		Hallsici. Nuci	eic Acius Res. 20,	, 2010-2021 (199.	<u> </u>	
/KH/	DQ	Nazarenko, I.A	., A Closed-Tube F	Format for Amplifi	cation and Detection of Nucleic	Acids Based on
/KH/ _		Energy Transfe	er. Fifth Annual A	Advances in Nucl	eic Acid Amplification and De	t ecti n , San
EXA	AMINE	ER:	/Kenneth Horlick/	,	_DATE CONSIDERED:_	09/17/2007



/KH/	_	Francisco, CA (June 16-17, 1997)
/KH/	DR	Ng, M. et al, A Fluorescent Oligopeptide Energy Renster Assay with Broad Applications for Neutral Proteases. Anal. Bi chem. 183, 50-56 (1989)
0000000	DS	Nielsen, P.E. et al, Peptide Nucleic Acid (PNA). A DNA Mimic with a Peptide Backbone. Bioc n. Chem.
000000000000000000000000000000000000000	DT	5, 3-7 (1994) Nielsen, P.E. et al, Peptide nucleic acids (PNAs): Potential Antisense and Anti-gene Agents. Anti-Cance
	DU	Drug Design 8, 53-63 (1993) Oncor, Inc. Press Release April 14, 1997.
	DV	Paris, P.L. et al, Probing DNA sequences in solution with a monomer-excimer fluorescence color change Nucl. Acids Res. 26, 3789-3793 (1998)
000000000000000000000000000000000000000	DW	Parkhurst, K.M. et al, Kinetic Studies by Fluorescence Resonance Energy Transfer Employing a Double Labeled Oligonucleotide: Hybridization to the Oligonucleotide Complement and to Single-Stranded DNA. Biochem. 34, 285-292 (1995)
	DX	PerSeptive Promotional Literature. Bio ConSepts: PNA and its use as an analytical molecular biology tool. 1996
000000000	DY	PerSeptive Promotional Literature. Peptide Nucleic Acids (PNA): Expanding the role of synthetic DNA analogs. 1995
	DZ	PerSeptive Promotional Literature. Peptide Nucleic Acids (PNA): Probing the improbable. 1997
	EA	PerSeptive Promotional Literature. PNA Oligomers as hybridization probes. 1995
	EB	Petersen, K.H. et al, Synthesis and oligomerization of N^{δ} -Boc- N^{α} -(thymin-1-ylacetyl)ornithine. Bioorg. 8 Med. Chem. Lett. <i>6</i> , 793-796 (1996)
000000000	EC	Piatek, A.S. et al, Molecular beacon sequence analysis for detecting drug resistance in <i>mycobacterium</i> tuberculosis. Nature Biotech. 16, 359-363 (1998)
200000000	ED	Promisel Cooper, J. et al, Analysis of Fluoroescence Energy Transfer in Duplex and Branched DNA Molecules. Biochem. 29, 9261-9268 (1990)
000000000	EE	Ratilainen, T. et al, Hybridization of peptide nucleic acid. Biochem. 37, 12331-12342 (1998)
0000000000	EF	Rye, H.S. et al, Stable fluorescent complexes of double-stranded DNA with bis-intercalating asymmetric cyanine dyes: properties and applications. Nucleic Acids Res. 20, 2803-2812 (1992)
000000000000000000000000000000000000000	EG	Scheffler, I.E. et al, Helix formation by dAT oligomers. I. Hairpin and straight-chain helices. J. M 1. Biol. <i>36</i> , 291-304 (1968)
	ЕН	Selvin, P.R., Fluorescence Resonance Energy Transfer. Methods in Enzymology 246, 300-334 (1995)
000000000000000000000000000000000000000	EI	Singh, D. et al, Oligonucleotides, part 5+: synthesis and fluorescence studies of DNA oligomers d(AT) ₅ containing adenines covalently linked at C-8 with dansyl fluorophore. Nucleic Acids Res. 18, 3339-3345 (1990)
000000000	EJ	Sixou, S. et al, Intracellular oligonucleotide hybridization detected by fluorescence resonance energy transfer (FRET). Nucleic Acids Res. 22, 662-668 (1994)
00000000	EK	Sosnowski, R.G. et al, Rapid determination of single base mismatch mutations in DNA hybrids by direct electric field control. Proc. Natl. Acad. Sci. USA 94, 1119-1123 (1997)
-	EL	Thisted, M. et al, Detection of immunoglobulin kappa light chain mRNA in paraffin sections by <i>in situ</i> hybridization using peptide nucleic acid probes. Cell Vision 3, 358-363 (1996)
	ЕМ	Thornton, N.B. et al, Chromophore-quencher probes for DNA. New J. Chem. 20, 791-800 (1996)
	EN	Tomac, S. et al, Ionic effects on the stability and conformation of Peptide Nucleic Acid Complexes. J. Am. Chem. Soc. 118, 5544-5552 (1996)
	EO	Tyagi, S. et al, Molecular Beacons: Probes that Fluoresce upon Hybridization. Nature Biotech. 14, 303-308 (1996)
	EP	Tygai, S. et al, Multicolor molecular beacons for allele discrimination. Nature Biotech. 16, 49-53 (1998)
V	EQ	van Gemen, B. et al, Qualitative and quantitative detection of HIV-1 RNA by nucleic acid sequence-based amplification. AIDS 7, S107-S110 (1993)
/KH/	ER	Vaughan, W.M. et al, Oxygen quenching of pyrenebutyric acid fluorescence in water. A dynamic probe of the microenvironment. Bi ch m. 9, 464-473 (1970)

EXAMINER:	/Kenneth Horlick/	DATE CONSIDERED:	09/17/2007

/K	_{/KH/} ES		Wang, G.T. et al, Design and Synthesis of New Fluorogenic HIV Protease Substrates Based on Resonance Energy Transfer. Tett. Lett. 31, 6493-6496 (1990)				
	00000000	ET	Weber, P.J.A. et al, A fast and inexpensive method for N-terminal fluoresein-labeling of peptides. Bi org. & Med. Chem. Lett. 8, 597-600 (1998)				
		EU	Weiler, J. et al, Hybridisation based DNA screening on peptide nucleic acid (PNA) oligomer arrays. Nucl Acids Res. 25, 2792-2799 (1997)				
		EV	Wittung, P. et al, Induced Chirality in PNA-DNA Duplexes. J. Am. Chem. Soc. 117, 10167-10173 (1995)				
		EW	Yamamoto, N. et al, A rapid detection of PCR amplification product using a new fluorescent intercalator, the pyrylium dye, P2. Nucleic Acids Res. 23, 1445-1446 (1995)				
		EX	Yang, M. et al, A DNA assay based on fluorescence resonance energy transfer and DNA triplex formation. Analy. Biochem. 259, 272-274 (1998)				
		EY	Yaron, A. et al, Intramolecularly quenched fluorogenic substrates for hydrolytic enzymes. Analy. Biochem. <i>95</i> , 228-235 (1979)				
		EZ	Zimmerman, M. et al, A New Fluorogenic Substrate for Chymotrypsin. Anal. Biochem. 70, 258-62 (1976)				
	0000000000	FA	Ratilainen, T. et al, Hybridization of Peptide Nucleic Acid. Biochem. 37, 12331-12342 (1998)				
	90000990000	FB	Wang, J. et al, Peptide nucleic acid probes for sequence-specific DNA biosensors. J. Amer. Chem. Soc 118, 7667-7670 (1996)				
	0000000000	FC	Corey, D.R., et al. Peptide Nucleic Acids: expanding the scope of nucleic acid recognition. Tibtech. 15, 224-229 (1997)				
	00000000	FD	Nielsen, P.E., Peptide Nucleic Acid. A Molecule with Two Identities. Acc. Chem. Res. 32, 624-630 (1999)				
	0000000000	FE	Ortiz, E., et al. PNA molecular beacons for rapid detection of PCR amplicons. Molecular and Cellular Probes. 12, 219-226 (1998)				
	00000000	FF	Ratilainen, T., et al. Hybridization of Peptide Nucleic Acid. Biochemistry. 37, 12331-12342 (1998)				
	200000000000000000000000000000000000000	FG	Parkhurst et al., Donor-Acceptor Distance Distributions In A Double-Labeled Fluroescent Oligonucleotide Bost As A Single Strand And In Duplexes, Biochemistry , 34 , 293-300 (1995)				
N	/	FH	Agrawal, S. et al, Site specific functionalization of oligonucleotides for attaching two different reporter groups. Nucleic Acids Research , 18, 5419-5423, (1990)				
/k	* (H/	FI	Demers, D. et al, Enhanced PCR amplification of VNTR locus D1S80 using peptide nucleic acid (PNA). Nucleic Acids Research, 15, 3050-3055, (1995)				



EXAMINER: _	/Kenneth Horlick/	DATE CONSIDERED:	09/17/2007
-------------	-------------------	------------------	------------